



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,909	03/26/2004	Dong-Ho Park	4591-377	5051

20575 7590 12/29/2005

MARGER JOHNSON & MCCOLLOM, P.C.  
210 SW MORRISON STREET, SUITE 400  
PORTLAND, OR 97204

EXAMINER

TRAN, MICHAEL THANH

ART UNIT PAPER NUMBER

2827

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/813,909	<b>Applicant(s)</b> PARK ET AL.	
	<b>Examiner</b> Michael t. Tran	<b>Art Unit</b> 2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 October 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-22 is/are allowed.
- 6) ☒ Claim(s) 1,3 and 4 is/are rejected.
- 7) ☒ Claim(s) 2,5 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

  
**MICHAEL TRAN**  
Examiner

## DETAILED ACTION

1. In response to the Communications dated October 24, 2005, claims 1-22 are active in this application.

### ***Claim Objections***

2. Claims 2, 5, and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Claim Rejections – 35 U.S.C. § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

4. Claims 1, 3 and 4 are rejected under 35 U.S.C 102(b) as being anticipated by Kwon et al. [U.S. Patent #5,768,215].

With respect to claim 1, Kwon et al. disclose, in figures 5, 6, and 11b, a semiconductor memory device comprising: a plurality of first bit lines [1A]; a plurality of second bit lines [1B]; a signal generator circuit [2] structured to produce a flag signal [Rop] notifying a burst [page] read operation; an address generator circuit [12] structured to provide an address in response to the flag signal; a column selection circuit [13] structured to select a part of the plurality of first bit lines in response to the addresses, and connect [via elements 12b and 15b – see figure 6] the first bit lines to the plurality of second bit lines [via st], respectively; and a discharge circuit [3] for discharging [via phi.DCB] voltages from the plurality of second bit lines in response to the flag signal [see figure 11b]. In figure 11b, it is noted that phi.DCB is responsive to signal Rop. *It is noted that the connection of the first bit lines to the plurality of second bit lines are being interpreted in two ways: 1) by the column selection circuit via elements 12b and 15b, which is shown above; and 2) by the combination of the column selection circuit with elements 12b and 15b being treated as one single circuit which still has the functionality of the column selection circuit. In both interpretations, the first bit lines and the plurality of second bit lines are made to connect to one another. Also, see column 7, lines 35-40. In the cited section, Kwon et al. clearly indicates that the column selection circuit couples both the first and second plural bit lines.*

With respect to claim 3, Kwon et al. disclose, in column 2, that the signal generator circuit is structured to produce the flag signal synchronized to a clock signal.

With respect to claim 4, Kwon et al. disclose, in column 1, that the device is applicable to a flash memory.

***Remarks***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. See above explanations regarding the amended claim 1. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.

***Allowable Subject Matter***

6. Claims 7-22 are allowable over the prior art of record.

7. The following is an Examiner's statement of reasons for the indication of allowable subject matter: the prior art of records does not show (in addition to the other elements in the claim) the following:

- A signal generator circuit structured to produce the flag signal notifying a next burst read operation after an input of an initial address.
- A discharge circuit comprises: a discharge signal generator structured to produce a discharge signal in response to the flag signal; and a plurality of NMOS transistors respectively connected between the plurality of second bit lines and a ground voltage and controlled by the discharge signal.
- The second bitlines are structured to be discharged before the selecting operation of the column selection circuit.
- A signal generator circuit for generating a flag signal indicating a burst read operation in response to a clock signal and a chip enable signal; and a sense amplification circuit for sensing and amplifying voltages of the selected second bit lines in response to the sense amplification control signals during the burst read operation.
- A discharge circuit for discharging voltages of the plurality of second bit lines in response to the flag signal.
- After the global bit lines are discharged, selecting the local bit lines and the global bit lines in response to the address.
- Sensing the cells located at the new address using the previously discharged one or more bit lines.

### ***Conclusion***

8. When responding to the Office action, Applicants are advised to provide the

Art Unit: 2827

Examiner with line and page numbers of the application and/or references cited to assist the Examiner in the prosecution of this case.

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Michael T. Tran whose telephone number is (571) 272-1795. The Examiner can normally be reached on Monday-Thursday from 7:30-6:00 P.M.

10. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1650.



Michael T. Tran  
Art Unit 2827  
December 21, 2005

**MICHAEL TRAN  
PRIMARY EXAMINER**